

From wang!elf.wang.com!ucsd.edu!info-hams-relay Thu Mar 28 04:40:59 1991 remote  
from tosspot  
Received: by tosspot (1.64/waf)  
via UUCP; Thu, 28 Mar 91 05:18:34 EST  
for lee  
Received: from somewhere by elf.wang.com id aa04757; Thu, 28 Mar 91 4:40:58 GMT  
Received: from ucsd.edu by relay1.UU.NET with SMTP  
(5.61/UUNET-shadow-mx) id AA12934; Wed, 27 Mar 91 22:04:03 -0500  
Received: by ucsd.edu; id AA18957  
sendmail 5.64/UCSD-2.1-sun  
Wed, 27 Mar 91 17:36:54 -0800 for brian  
Received: by ucsd.edu; id AA18942  
sendmail 5.64/UCSD-2.1-sun  
Wed, 27 Mar 91 17:36:51 -0800 for /usr/lib/sendmail -oc -odb -oQ/var/spool/  
lqueue -oi -finfo-hams-relay info-hams-list  
Message-Id: <9103280136.AA18942@ucsd.edu>  
Date: Wed, 27 Mar 91 17:36:49 PST  
From: Info-Hams Mailing List and Newsgroup <info-hams-relay@ucsd.edu>  
Reply-To: Info-Hams@ucsd.edu  
Subject: Info-Hams Digest V91 #245  
To: Info-Hams@ucsd.edu

Info-Hams Digest                      Wed, 27 Mar 91                      Volume 91 : Issue 245

Today's Topics:

a few fundamental questions about RF signals

Alinco 590

AR-1000 scanner

Are all RGB monitors the same (a SSTV ?)

Cook Islands

How do you tell one ZK1 from another?

IC-24at Sale?

LSB vs USB    ad infinitum

MAJOR GEOMAGNETIC STORM UPDATE #1 - 27 MARCH - STORM ENDED

Multiple antennas/radios on same feed line

Radio installation in Honda Accord

RC on 6 meters

TS-850s with KAM Problems

Vacuum tube question/quest (Attn: OOTs & gov't surplus fans) (2 msgs)

What is a "Sideswiper" CW Key?

When is the contest????

WPX Scoring

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>

Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>

Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available  
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text  
herein consists of personal comments and does not represent the official  
policies or positions of any party. Your mileage may vary. So there.

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Date: 28 Mar 91 00:38:06 GMT  
From: epic!karn@bellcore.bellcore.com  
Subject: a few fundamental questions about RF signals  
To: info-hams@ucsd.edu

In article <7087@mace.cc.purdue.edu>, dil@mace.cc.purdue.edu (Perry G Ramsey)  
writes:

|> In article <9171@plains.NoDak.edu>, kkim@plains.NoDak.edu (kyongsok kim)  
writes:

|> > I wonder if the  
|> > same RF signal can travel either through copper wire or through air. In  
|> > other words, is there no difference between RF signal (say, for channel  
|> > 4) that my TV receives from the air and RF signal (say, for channel 4)  
|> > coming from CATV company through cable?  
|>  
|> None at all, except that one is an electromagnetic wave traveling through  
|> the air and the other is an alternating current traveling through a  
|> wire.

Actually, both propagate as electromagnetic waves. Signals propagate  
through coax cables in the TEM (transverse electric magnetic) mode,  
meaning that the electric and magnetic fields are both perpendicular  
to the direction of propagation. TEM is unique among the various  
propagation modes supported by guided media in that there is no lower  
cutoff frequency; TEM works down to DC.

One important practical difference between RF propagation in free  
space and in guided media (coax, waveguide or optical fiber) is that  
signals strengths in free space decrease with distance according to  
the inverse square law while signals in lossy guided media decrease  
exponentially with distance. A vacuum does nothing to absorb RF  
radiation so the inverse square law is simply a consequence of  
geometry: the surface area of a sphere increases as the square of its  
radius. Each time you double the distance, the signal strength goes  
down by 6dB. A perfect guided media would have no loss at all, but  
real cables always have loss, and this loss is constant per unit of  
distance; this implies an exponential loss function.

As an interesting consequence of this, there is always some distance  
beyond which free space propagation (i.e., a pair of antennas aimed at

each other, assuming nothing blocks the path) is actually more efficient than the use of lossy guided media. For example, if you want to communicate from Warren NJ to Sunnyvale CA (a distance of 4096 km) you might consider running a BIG piece of RG-8 coax directly between the two towns and hooking up HF transceivers to each end. But even good RG-8 foam coax has a loss of 0.3 db/100' (9.8 db/km) on 80 meters, and it only gets worse on the higher bands. A run of 4096km would therefore have a total loss of 40,140 db on 80m! You could run enough power to quickly vaporize the coax near the transmitter and you wouldn't be able to hear a peep on the other end. Needless to say, a pair of antennas would be more effective, even though 80m is not the best band for coast-to-coast propagation.

Real landline systems, of course, use repeaters at regular intervals to overcome this problem. Modern optical fiber has also gotten very good, with losses in the tenths of a db per kilometer, allowing repeater spacings up in the tens of kilometers. This is phenomenal compared with even the very best coax cable.

Phil

-----  
Date: 27 Mar 91 22:48:53 GMT  
From: news-mail-gateway@ucsd.edu  
Subject: Alinco 590  
To: info-hams@ucsd.edu

For Jay Appell:  
Would appreciate copy of the Alinco 590 manual via email to the above return address.

TXN,  
Norman, KH6R  
(808) 668-3087

-----  
Date: 27 Mar 91 19:11:59 GMT  
From: panix!schuster@NYU.EDU  
Subject: AR-1000 scanner  
To: info-hams@ucsd.edu

Someone recently posted about a favorable experience getting some of the petty annoyances of the AR-1000 scanner fixed by Ace Communications. So I called ACE today, and here are the responses to my queries:

1. The birdie at 154.82 mHz (+/-) is due to an internal oscillator which

cannot be eliminated. The crystal can be changed to move it off a particular received station that it might be interfering with, but it cannot be eliminated. Earlier attempts at adding internal RF shields do not work satisfactorily.

2. The squelch threshold on the 800 band is significantly higher than on the other bands. This makes you lose weaker VHS signals in a mixed scan bank if you must seuqlch higher to scan 800. I was told that this could be fixed, but that so doing would SIGNIFICANTLY REDUCE SENSITIVITY ON THE 800 BAND. They now are recommending that 800 MHz frequencies be banked and scanned separately.
3. The horrible firmware bug which will corrupt the current memory channel whenever the AM/FM button is pressed in manual mode BEFORE selecting a frequency increment (i.e. the bank# is still displayed rather than the increment) is NOW CONSIDERED A =FEATURE= and is documented as such in the new instruction insert. Phooey.

I guess I won't bother sending it back, I can live with things as they are.

--

Mike Schuster		CIS: 70346,1745
NY Public Access UNIX: ...cmcl2!panix!schuster		MCI Mail, GENIE:
The Portal (R) System: schuster@cup.portal.com		MSCHUSTER

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Date: 27 Mar 91 18:15:24 GMT  
From: swrinde!zaphod.mps.ohio-state.edu!sol.ctr.columbia.edu!src.honeywell.com!  
skyler.mavd.honeywell.com!estey@ucsd.edu  
Subject: Are all RGB monitors the same (a SSTV ?)  
To: info-hams@ucsd.edu

I just purchased a used Robot 450C Slow-Scan Converter and am finding some trouble using it with a RGB computer-type (PC compatable) monitor. The Robot 450C has a RGB output with the manual claims to be TTL levels with jumper selectable sync (eith positive or negative) and a second output that can be either composite video (1/5 v-pp I vaguely recall) or RF on either ch. 2 or 3. It can do Composite or RF but not both at the same time - the option is jumper selectable. RGB is always available despite the RF/Composite choice.

I have good pictures when the camera (yes, composite out) is hooked to the composite video input of a Mitsubishi moniotor. The signal is still good when the camera is connected to the 450C and the composite video signal is displayed on a composite monitor (the Mitsubishi). The same is true of the RF signal provided by the 450C. When I connect either of 2 so-called

RGB monitors (one is a Packard Bell) up to the 450C the camera generated video is TERRIBLE. The colors are smeared, edges jagged, and the only area that is at all clear is a "port hole" at the very center of the monitor screen. Graphics, including color, looks fine on the RGB monitors.

Someone told me there is two types of RGB and that the Commodore monitors will work fine with the Robot 450C (or 1200C I am told) but a IBM or compatable RGB monitor will not work. None of the synch or level adjustments in the 450C seems to make things better.

Anyone have any ideas on how to fix the problem or what to look for in a Robot-Compatible monitor?

73 de Carl WA0CQG

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Date: 27 Mar 91 22:36:12 GMT  
From: ucselx!usc!cs.utexas.edu!ut-emx!oo7@ucsd.edu  
Subject: Cook Islands  
To: info-hams@ucsd.edu

Scott WA7VYJ asks:

>If you work a ZK1 you cannot find a QTH for in the callbook, is there any  
>way to tell, after the fact, whether you've worked the North Cooks or South  
>Cook? I really do not want to go to the bother of extracting a QSL from a  
>foreign manager only to find out its not the one I need.  
-----

The simple answer is that they are all on South Cook.

South Cook is a vacation spot with hotels and probably McDonalds every 100 yards. North Cook is a bunch of rocks that are hard to reach and operate from.

In the last 2-3 years I have worked at least a dozen S. Cook stations and only one N. Cook expedition (ZK1CQ and ZK1RS in Oct 89). I think one of the Scandinavian groups on a Pacific tour might have activated N. Cook sometime in 1990 too. I guess the best answer is to keep an eye on the DX magazines, and the DX bulletins that are posted here. An expedition to N. Cook will be mentioned, but a visit to S. Cook probably won't be.

Similarly, all HK0s are on San Andreas and Providencia, except that every few years someone makes an expedition to Malpelo and you hear about it.

I'm exaggerating a bit, I believe there is one (?) amateur who lives in the N. Cook Islands. Oh, and another problem is that the callsigns for

S. Cook get recycled rather frequently, so make sure you use a current managers' list when getting ready to send that QSL card off.

Derek Wills (AA5BT, G3NMX)  
Department of Astronomy, University of Texas,  
Austin TX 78712. (512-471-1392)  
oo7@astro.as.utexas.edu  
oo7@emx.utexas.edu

-----  
Date: 27 Mar 91 20:45:10 GMT  
From: ucse!x!usc!samsung!crackers!jjmhome!km3t@ucsd.edu  
Subject: How do you tell one ZK1 from another?  
To: info-hams@ucsd.edu

In article <1991Mar26.092505.47156@cc.usu.edu>, slp9m@cc.usu.edu writes:  
> If you work a ZK1 you cannot find a QTH for in the callbook, is there any  
> way to tell, after the fact, whether you've worked the North Cooks or South  
> Cooks? I really do not want to go to the bother of extracting a QSL from a  
> foreign manager only to find out its not the one I need.

I think the only way is to ask the ZK1 station. I know I've had grief with this before. Or you can ask around about a particular call sign and somebody may know....

Good luck

--  
Dave Pascoe | Internet: km3t@jjmhome.m2c.org  
KM3T | UUCP: km3t@jjmhome.UUCP

-----  
Date: 27 Mar 91 21:18:48 GMT  
From: sdd.hp.com!zaphod.mps.ohio-state.edu!unix.cis.pitt.edu!hpb.cis.pitt.edu!  
hpb@ucsd.edu  
Subject: IC-24at Sale?  
To: info-hams@ucsd.edu

In article <40360003@col.hp.com> kenw@col.hp.com (Ken Wyatt) writes:  
>I suspect that ICOM will eventually drop the IC-24 from their line, as  
>the new IC-W1 dualbander will probably be announced at Dayton. What you  
          ^^^^^^^^^^^^^^^^^^^^  
>are seeing are folks unloading inventory.

This is the first I've heard of this. Any rumors as to the differences between the W1 and 24AT?

73,  
Harry Bloomberg WA3TBL  
hpb@hpb.cis.pitt.edu or  
hpb@vms.cis.pitt.edu

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Date: 27 Mar 91 02:22:36 GMT  
From: hpl-opus!hpnmdla!alanb@hplabs.hpl.hp.com  
Subject: LSB vs USB ad infinitum  
To: info-hams@ucsd.edu

In rec.radio.amateur.misc, rkarlqu@hpssciz.sc.hp.com (Rick Karlquist) writes:

>> Actually, the VFO must be around 9 MHz with the IF at 5+ MHz for the  
>> sidebands to come out opposite sign. This was the design for the old  
>> Central Electronics SSB exciter that started the SSB revolution back  
>> in the early 60's.  
>>  
>> AL N1AL  
>> -----

>You're both right. Either system will generate USB at 14 MHz. and LSB at  
>3.5 MHz. starting with a USB signal at the IF.

Nope. The IF has to be the 5 MHz one.

Let's say the carrier is at 9.000 MHz, and the upper sideband ends at 9.003.

The 20 meter signal has carrier at  $9 + 5 = 14.000$  and the sideband ends  
at  $9.003 + 5 = 14.003 \Rightarrow$  USB.

The 80 meter signal has carrier at  $9 - 5 = 4.000$  and the sideband ends  
at  $9.003 - 5 = 4.003$  MHz  $\Rightarrow$  USB.

To get the sideband to flip, you have to use a 9 MHz VFO and 5 MHz IF.

AL N1AL

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Date: 27 Mar 91 23:45:07 GMT  
From: news-mail-gateway@ucsd.edu

Subject: MAJOR GEOMAGNETIC STORM UPDATE #1 - 27 MARCH - STORM ENDED  
To: [info-hams@ucsd.edu](mailto:info-hams@ucsd.edu)

## GEOMAGNETIC STORM UPDATE

[illegible]

23:30 UT, 27 March

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STORM UPDATE INFORMATION:

The update scheduled for 06:00 UT was not posted due to local computer problems. We apologize for the loss of that update.

The geomagnetic and auroral storm has ENDED. A shock from the recent major flaring has not yet been observed, and the probability for observing another shock is falling as time passes. Presently, an increase in geomagnetic activity is not expected. A return to more normal conditions will continue.

HF and VHF conditions are quickly returning to normal over middle and low latitudes. DX is now possible, following the strong degradations which occurred earlier this week. Conditions, particularly over the more northerly latitudes, will continue to be somewhat unstable, although significant improvements are expected. High latitudes and polar latitudes will continue to experience some degradation in signal quality due to enduring proton activity. However, the strong PCA event is pretty well over now. Only very slight absorption is being measured (less than 0.5 dB in the night-sectors).

Thanks to all of you who sent in reports during this major event. A summary of this event will be compiled and posted for general viewing over the next few weeks.

The following alerts have been CANCELLED:

- MAJOR GEOMAGNETIC STORM ALERT
- GEOMAGNETICALLY INDUCED CURRENT (GIC) ALERT
- LOW LATITUDE AURORAL ACTIVITY ALERT

The following alerts remain IN PROGRESS:

- SATELLITE PROTON EVENT ALERT



- POLAR CAP ABSORPTION EVENT ALERT
- POLAR AND HIGH LATITUDE RADIO SIGNAL BLACKOUT ALERT

The following warnings are IN PROGRESS:

- POTENTIAL MAJOR SOLAR FLARE WARNING
- POTENTIAL PROTON FLARE WARNING

/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\

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 Date: 27 Mar 91 23:38:50 GMT  
 From: usc!cs.utexas.edu!oakhill!nddsun1!waters@ucsd.edu  
 Subject: Multiple antennas/radios on same feed line  
 To: info-hams@ucsd.edu

In article <1505@vtserf.cc.vt.edu> benchoff@groupw.cns.vt.edu (Phil Benchoff) writes:

>Case 1: I have a broadband antenna (discone) that I use for my scanner.  
 >I would also like to use it for my 2m/70cm transceiver. What I need is  
 >a hybrid splitter. (A 3 terminal device with about 3.5dB loss from  
 >the input to either output, and high isolation between the two outputs.)  
 >I have not seen any adds for something like this. I have seen adds for  
 >duplexers, which appear split the rf spectrum to the two ports with  
 >little insertion loss. Does such a thing exist?

For reasonable power levels (i.e. under 50W) a broadband CATV splitter would work. Otherwise a DIPLEXER is what you need, they are sold as accessories for dual/triple band VHF/UHF radios for around \$50 each. A DUPLEXER is generally tuned to a fixed frequency and is used for say a repeater which uses the same antenna for simultaneous receive and transmit. The isolation required is over 120Db so they are expensive both to buy and to tune.

A DIPLEXOR has a much lower isolation, basically just enough to keep from applying over about .1 V (yes VOLTS!) to the other input. With a UHF/VHF setup that is enough (about 40Db or so).

>Case 2: Let's say that I have both 2m and 70cm antennas that I want to  
 >use on my dual-band. It looks like I need a duplexer to combine both of  
 >those on the same feed line. Am I correct about that?

No - a DIPLEXOR! Confused yet? I only hope \*I\* got the names right :-)

--

\*Mike Waters AA4MW/7 waters@nddsun1.sps.mot.com \*

We have met the enemy, and he is us.

-- Walt Kelly

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Date: 27 Mar 91 23:15:24 GMT  
From: usc!snorkelwacker.mit.edu!hsdndev!bunny!dhp1@ucsd.edu  
Subject: Radio installation in Honda Accord  
To: info-hams@ucsd.edu

I'm looking for anyone with experience installing mobile rigs in Honda Accords. I have a 1990 Accord LX 2-door and a Kenwood TM-701 (mini dual-band mobile radio). I have had a "temporary" installation for many months now and want to make it a little more permanent and easier to access. I have the rig mounted (actually, shoved in) between the passenger seat and the parking brake.

It looks like there is a nice space just under the AM/FM stereo. The problem is that there is a plastic frame-like insert piece there which is where I think the optional equalizer would go. Has anyone ever removed one of these inserts? I tried quickly the other day with no luck. It looks like it should be possible, though.

The other thing is DC power.....has anyone been able to find an unused grommet that penetrates the firewall? I'd like to run +12V right from the battery or fuse block to the radio....using the old cigarette lighter trick right now.

Any help will be appreciated....

--  
Dave Pascoe | Internet: dhp1@gte.com  
GTE/SCSD | UUCP: ...!{harvard}!gte.com!dhp1  
KM3T | Packet Radio: km3t @ ka2qhd.nj

-----  
Date: 27 Mar 91 02:39:32 GMT  
From: hpl-opus!hpnmdla!alanb@hplabs.hpl.hp.com  
Subject: RC on 6 meters  
To: info-hams@ucsd.edu

In rec.radio.amateur.misc, wws@raphael.cray.com (Walter Spector) writes:

>I know nothing about using RC on 6 meters. To help me out, I was  
>wondering the net could help summarize what is currently going on.  
>Some general information would be helpful, eg.,

- > - What frequencies do the RC guys typically use?
- > - What kind of radio gear is available? Kits?
- > - How often do you get QRMed?
- > - What is the state of the art?
- > - Other interesting trivia

I have my own RC question: The FCC regs state that an Amateur "may" operate a radio controlled "model craft" under the following conditions: 1) Less than 1 watt. 2) Callsign and Name/address affixed to transmitter. 3) No ID required.

My question: Do these restrictions still apply if you are willing to ID in the normal manner every 10 minutes?

AL N1AL

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Date: 27 Mar 91 23:00:00 GMT  
From: swrinde!zaphod.mps.ohio-state.edu!van-bc!ubc-cs!nebulus!dennis@ucsd.edu  
Subject: TS-850s with KAM Problems  
To: info-hams@ucsd.edu

ewb@raybed2.msd.ray.com (EUGENE BALINSKI) writes:

...  
>which is really no problem at all. But what is really getting me is  
>the apparent impressed noise from the KAM on to the 850 audio line.  
>It effects me especially when I am using the KAM to watch the 2M Packet  
>DX cluster and using the 850 on SSB. The noise appears when I ride up  
...

I have exactly the same problem with both the TS680 and TS850. What you are experiencing is the RF HASH from the KAM CPU. I have eliminated it by inserting a Radio Shack 1:1 audio transformer in the audio out line. I played around with bypassing everything but the 1:1 xfmr was a better solution.

Another interesting thing I have found with the 850 is AF radio station audio leaks in on 80 meter SSB. Do you have this problem? Kenwood has not heard of this one.

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Dennis S. Breckenridge VE7TCP@VE7TCP [44.135.160.59] dennis@nebulus.UUCP  
Lately it occurs to me...what a long strange trip it's been. - Grateful Dead

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Date: 27 Mar 91 21:02:57 GMT  
From: sdd.hp.com!hp-col!col!kenw@ucsd.edu  
Subject: Vacuum tube question/quest (Attn: 00Ts & gov't surplus fans)  
To: info-hams@ucsd.edu

I'll respond here because this may be of interest to other tube buffs. The tubes in your receiver were commonly called "pencil" tubes. The numbers should be ok, at least the ones you called out looked familiar. Some of the older Motorola (and maybe other) fm commercial radios used these as well. Somewhere, I have a small quantity of these tubes (some new, some used). If you are not in a hurry, I'll poke around in some boxes and attempt to locate them. It would help me if you would specify the tube number you need. I also have a few used "acorns". Anyone remember these guys?

Regarding the pinout on these fellows; there were two primary types; a "flattened" tube (normally with a sprayed metallic external shield - silver in color), and a round (usually clear glass) variety. The flat tubes (used a lot in Motorola radios) have pins that are in-line. There is a dot which signifies pin 1. The round types have a round pinout (of course!) which corresponds to its larger brothers; that is, there is a gap at one spot on the perimeter. The numbering scheme is identical to the regular tubes we all know so well.

Regards, Ken Wyatt (kenw@hp.col.com)

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Date: 28 Mar 91 00:56:14 GMT  
From: news-mail-gateway@ucsd.edu  
Subject: Vacuum tube question/quest (Attn: 00Ts & gov't surplus fans)  
To: info-hams@ucsd.edu

Scott Parker Asks about tubes:

The tube p/n 5840 is recognized as a standard number for a pencil tube, and you may order a replacement by the number 5840. Just specify that you want a 5840 pencil tube, and that should be sufficient identification.

Identifying pin numbers is easy if the red dot remains on the glass for the number one pin. Should the paint be missing, a tube manual basing reference will help. Usually a magnifying glass can be used for tracing the pin wires to the internal elements which can then be compared to the basing diagram for pin numbering.

Older ARRL Handbooks listed the tube characteristics and basing for the more common pencil tubes.

73

Hugh Wells  
W6WTU

-----  
Date: 27 Mar 91 02:34:03 GMT  
From: hpl-opus!hpnmdla!alanb@hplabs.hpl.hp.com  
Subject: What is a "Sideswiper" CW Key?  
To: info-hams@ucsd.edu

In rec.radio.amateur.misc, hpb@hpb.cis.pitt.edu (Harry Bloomberg) writes:

...  
> The explanation was not terribly clear. So my question to the net is  
> "What exactly is a sideswiper?"

Imagine an old broken hacksaw blade mounted horizontally with the teeth pointing down. It is rigidly supported at one end and there is a pair of contacts at the other end such that if you push it to the left, you can make dahs (like a vibroplex bug), and if you push it to the right you can make... dahs (like a vibroplex bug)... or dits if you just tap it. In other words, it's like a bug, except that the dits are not made by a vibrating arm -- you have to do it manually. The normal technique for dits is to vibrate the lever back and forth: it makes two dits per complete vibration.

Now are you really confused?

AL N1AL

-----  
Date: 27 Mar 91 15:24:29 GMT  
From: microsoft!mikemr@uunet.uu.net  
Subject: When is the contest????  
To: info-hams@ucsd.edu

The CQ WW SSB contest is the weekend of Mar 30/31. ARRL corrected the error in a recent bulletin. GL!

-----  
Date: 27 Mar 91 23:36:42 GMT

From: tgv.com!garlough@ames.arpa  
Subject: WPX Scoring  
To: info-hams@ucsd.edu

In article <8794@gollum.twg.com>, sawyer@twg.com (Bruce B. Sawyer) writes:

```
| - contacts on 160, 80 and 40 count double those on 20, 15, or 10;  
| - multipliers are good on only one band.    [...]  
|  
|If anybody  
|on the net has studied WPX strategy, I'd be very curious what sort of  
|strategy recommendations you might be willing to share BEFORE the 'test!  
|  
|                                     -AA6KX
```

```
Date: (null)
From: (null)
```

Date: (null)  
From: (null)  
Since most of the prefixes are in North America, you will work a lot of them without really trying. A lot of guys from back east will call you while you are trying (in vein?) to run Europe on 10 and 15 during the morning.

Trey Garlough

Date: 27 Mar 91 23:14:39 GMT  
From: orion.oac.uci.edu!ucivax!jarthur!bridge2!mips!twg.com!nolan@ucsd.edu  
To: info-hams@ucsd.edu

References <1991Mar21.063134.4747@ariel.unm.edu>, <2065@catnip.berkeley.ca.us>,  
<1991Mar23.021043.27304@bellcore.bellcore.com>  
Reply-To : nolan@twg.com  
Subject : Re: what does COSMAC mean, as in 1802

Another reason to use the 1802 and its relations is that it'll operate on 10V! Much better'n TTL and the 5V CMOS. I've been tinkering with the stuff for model RR applications for a while.

Nolan Hinshaw                      Internet: nolan@twg.com  
The Wollongong Group              Dingalingnet: (415)962-7197

Piobairi Uilleann, San Francisco  
I am my own different drummer!

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End of Info-Hams Digest

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